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FIGURE 1

CCTTTCCTCTGTGAAGATTCAACATTTTAAATCAGTTAAATAACTTTGTCTCTCTCCATCAGAAAGTAAATACATAAGNA 30
M H Y F G V L A A L S V F M I I A C L T R G K P L E N W K K
ATGCATTATTTGGAGTATTAGCTGCACCTGTCTGTTTCAATATCATTTGCCCTGCCTGACAAGAGGCAAGCCTTTGGAAAACCTGGAAAAG
L P V M E E S D A F F H D P G E V E H D T H F D F K S F L E 60
CTACCAGTTATGGAAGAGTCTGATGCTTCTTCATGATCCTGGGNAAGTGGAAACATGACACCCACTTTTGACTTTAAATCTTTCTTGGAG
N M K T D L L R S L N L S R V P S Q V K T K E E P P Q F M I 90
AATATGAACAGAGATTACTAAGAAGTCTGMAATTTATCAAGGGTCCCTCCATCACAAGTGAAGACCAAGAGAGAGCCACCACAGTTCATGATT
D L Y N R Y T A D K S S I P A S N I V R S F S T E D V V S L 120
GATTATACAACAGATATACAGGGACAAGTCCCTCCATCCCTGCATCCNACATCGTGAGGAGCTTCAGCACTGAAGATGTTGTTCTTTA
I S P E E H S F Q K H I L L F N I S I P R Y E E V T R A E L 150
ATTTCACCAGAAGACACTCATTTTCAGAAACACATCTTGCTCTTCAACATCTCTATTCACGATATGAGGAAGTCACCAGAGCTGAACTG
R I F I S C H K E V G S P S R L E G N M V I Y D V L D G D H 180
AGAATCTTATCTCCTGTCAACAGGAAGTTGGGTCTCCCTCCAGACTGGNAGGCAACATGGTCACTTTATGATGTTCTAGATGGAGACCAT
W E N K E S T K S L L V S H S I Q D C G W E M F E V S S A V 210
TGGGAAAACAAGAAAGTACCAAAATCTTTACTTGCTCTCACAGTATTCAGGACTGTGGCTGGAGATGTTTGAGGTGTCCAGCGCTGTG
K R W V K A D K M K T K N K L E V V I E S K D L S G F P C G 240
AAAAGATGGTCAAGGCAGACAAGATGAAGACTAAACAAGCTAGAGGTTGTTATAGAGAGTAAGGATCTGAGTGGTTTTCCTTGTGGG

FIGURE 1 (CONTINUED)

K L D I T V T H D T K N L P L L I V F S N D R S N G T K E T 270
 AAGCTGGATATTACTGTACTCATGACACTAAATACTGCCCTATTATAGTGTCTCCAATGATCGCAGCAATGGGACAAAGAGACC
 K V E L R E M I V H E Q E S V L N K L G K N D S S S E E E Q 300
 AAAGTGGAGCTCCGGAGATGATTGTTTCATGAACAAGAAAGTGTGCTAAACAATTAGGAAGAAGCACTCTTCATCTCTGAAGAAGAACAG
 R E E K A I A R P R Q H S S R S K R S I G A N H C R R T S L 330
 AGAGAAGAAAGCCATTGCTAGGCCCGTCAGCATTCCTCCAGNAGCAAGAGAGCATAGGAGCAACCACTGTGCGAGAACGTCACCTC
 H V N F K E I G W D S W I I A P K D Y E A F E C K G G C F F 360
 CATGTGAACTTTAAAGAAATAGGTGGGATTCTTGGATCATTCGACCCCAAGATTATGAGGCTTTTGAGTGTAAGGAGGTTGCTTCTTC
 P L T D N V T P T K H A I V Q T L V H L Q N P K K A S K A C 390
 CCCCTCACAGATAATGTTACGCCAACCAACATGCTATTGTCCAGACTCTGTGTCATCTCCAAACCCAAAGAAAGCTTCCAAGGCCCTGT
 C V P T K L D A I S I L Y K D D A G V P T L I Y N Y E G M K 420
 TGTGTTCCAACTAAATTGGATGCAATCTCTATTCTTTATAAGGATGATGCTGGTGTGCCCACTTTGATATATACTATGAAGGGATGAAA
 V A E C G C R 427
 GTGGCAGAATGTGGCTGCAGGTAGTATATGCTGAATATCTAAGAATATACTCTTTTCTGCTGTCTGTGAACTGTACATTAGTGATGCAA
 ATGAAATCCTTGCAACAAAGGTTTGGAGCACGGCATGGGGCTGTTGTTGCTGCTTTTAAAGGAAAGATGGCATTAAAGAAATGGC
 AATCACTGTAAATACCCTGCATTATATACCATTAATTAAACTTTTGTGAGATTGAAAAAAAAAAAAAAA

FIGURE 2A

[illegible]

FIGURE 2B

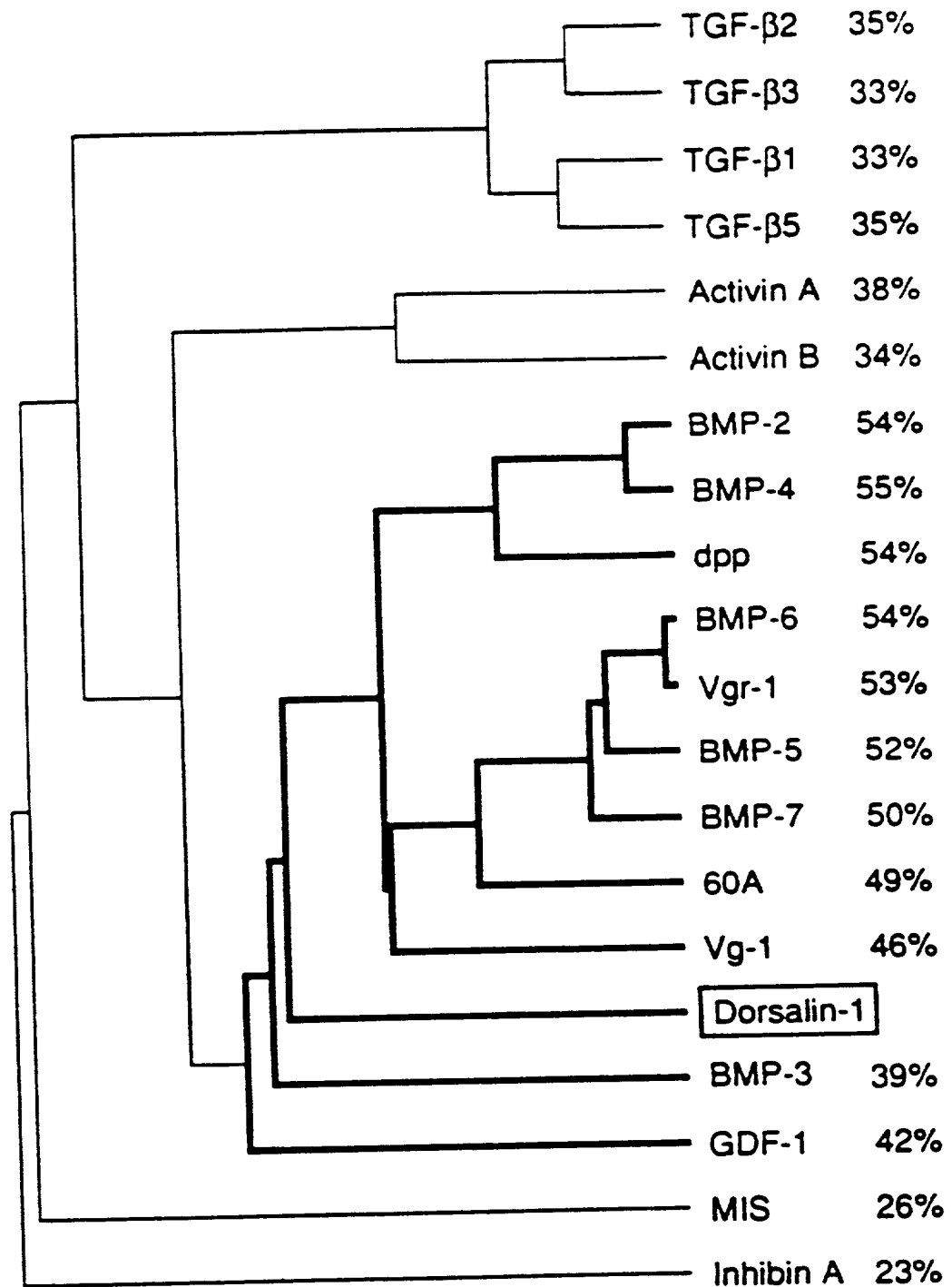
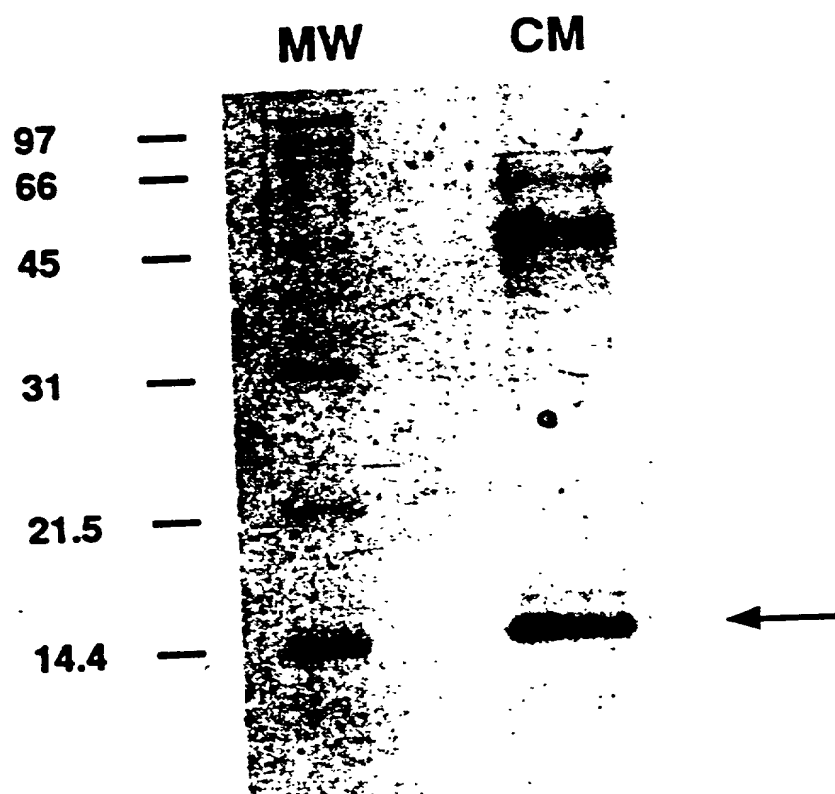


FIGURE 3A



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FIGURE 3B

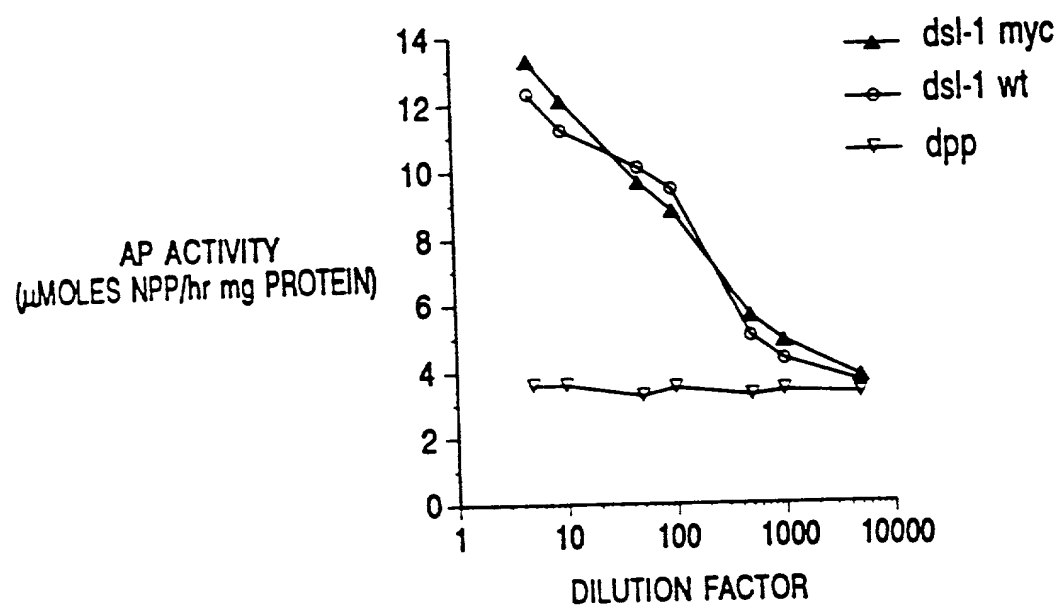


FIGURE 4A



FIGURE 4B

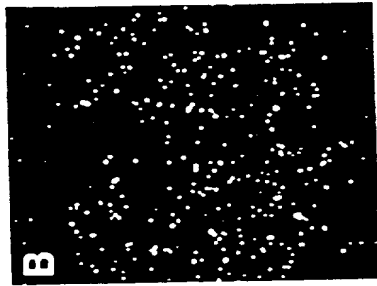


FIGURE 4C

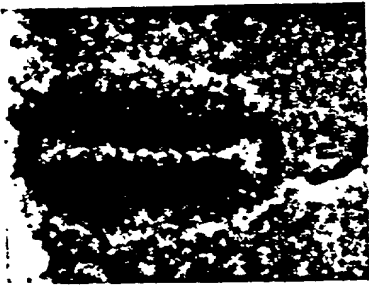


FIGURE 4D

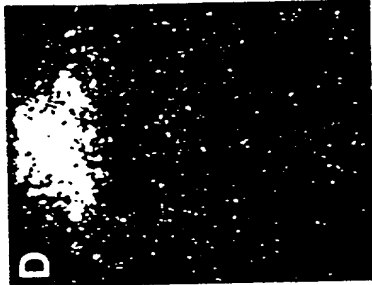


FIGURE 4E

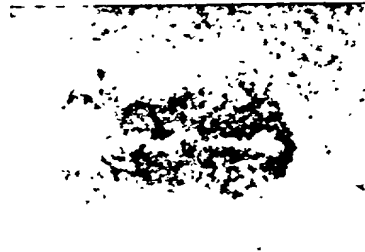


FIGURE 4F

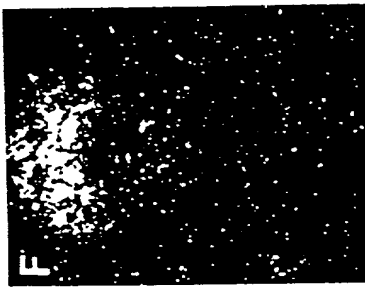
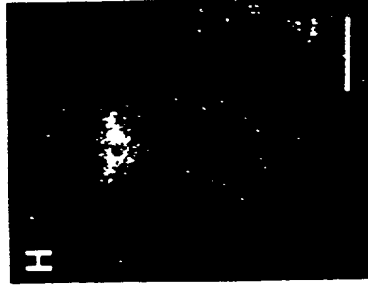


FIGURE 4G



FIGURE 4H



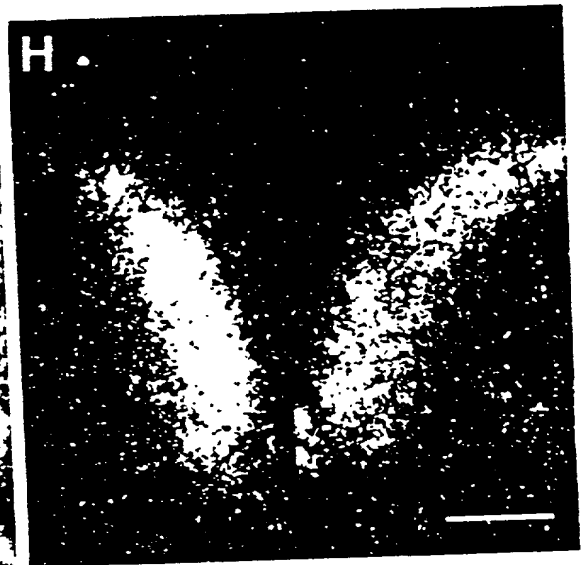


E

FIGURE 5G



FIGURE 5H



10002278.110201

FIGURE 6A

FIGURE 6B

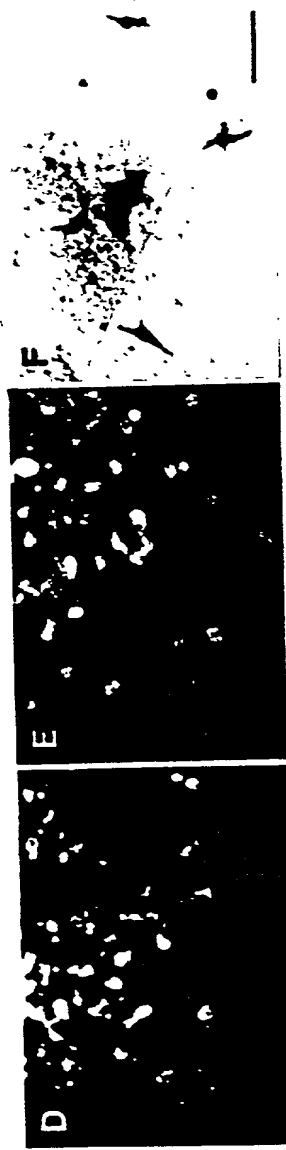
FIGURE 6C



FIGURE 6D

FIGURE 6E

FIGURE 6F



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FIGURE 6G

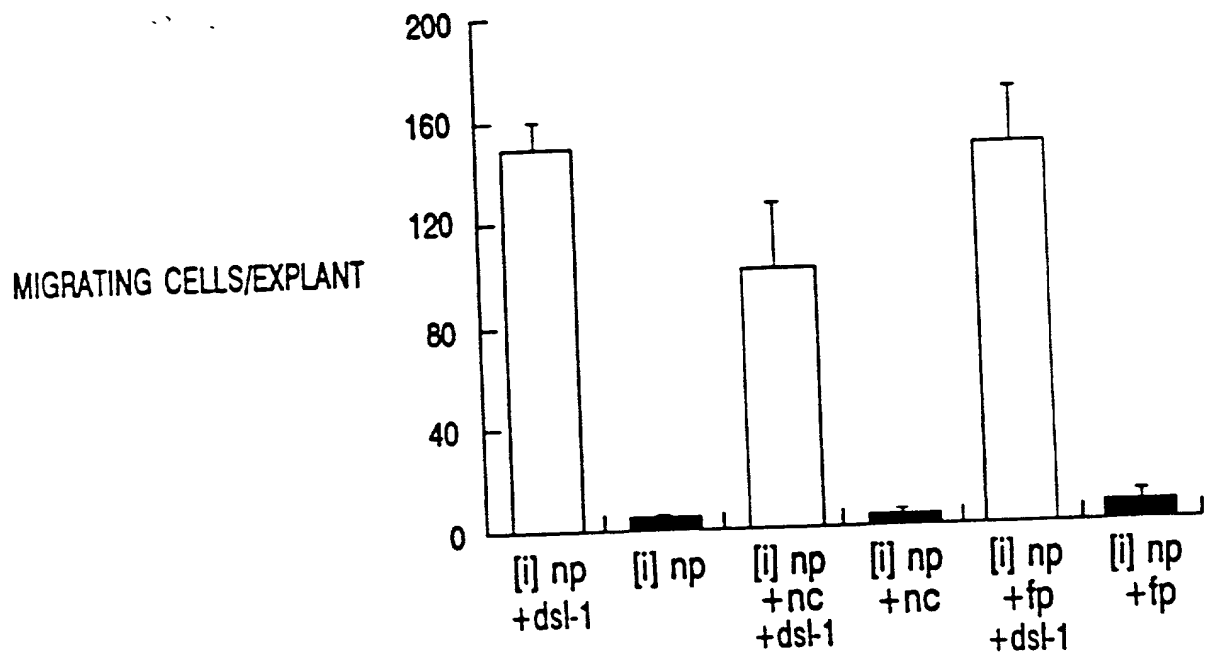


FIGURE 7A

FIGURE 7B

FIGURE 7C

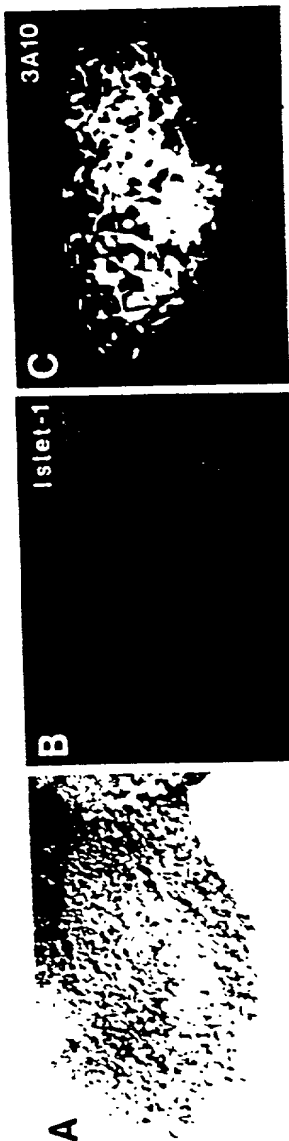


FIGURE 7D

FIGURE 7E

FIGURE 7F



FIGURE 7G



FIGURE 7H

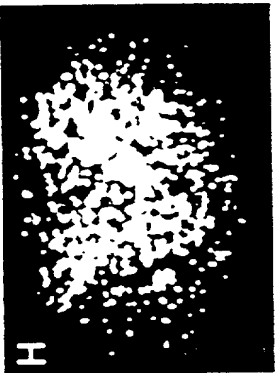


FIGURE 7I



FIGURE 7J



FIGURE 7K



FIGURE 7L



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FIGURE 8A

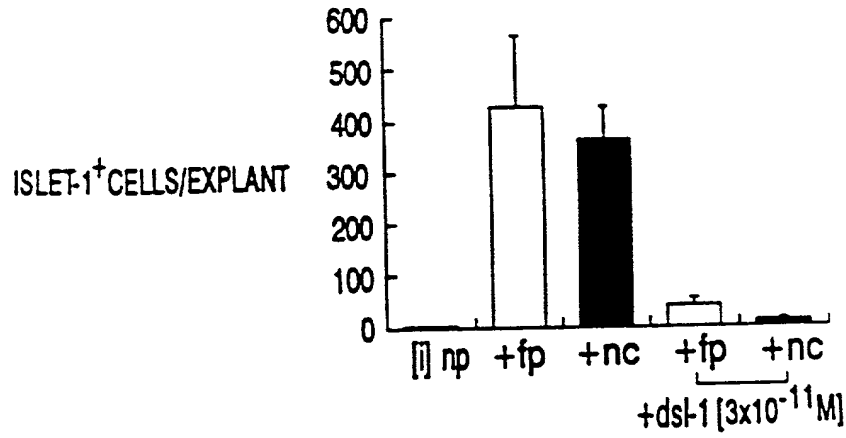


FIGURE 8B

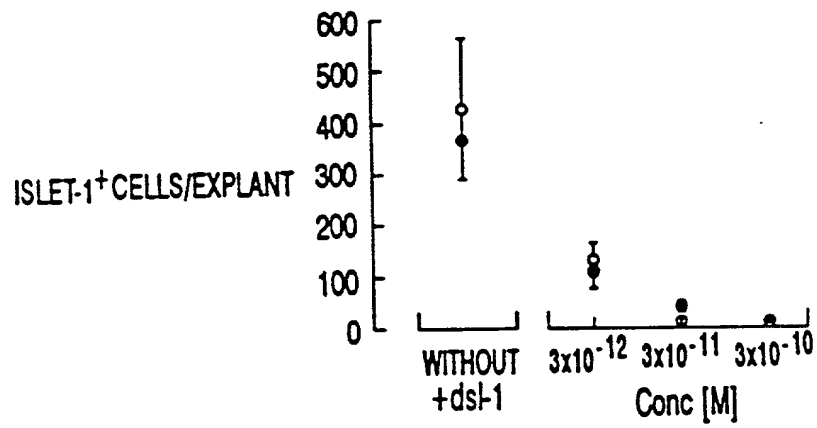


FIGURE 8C

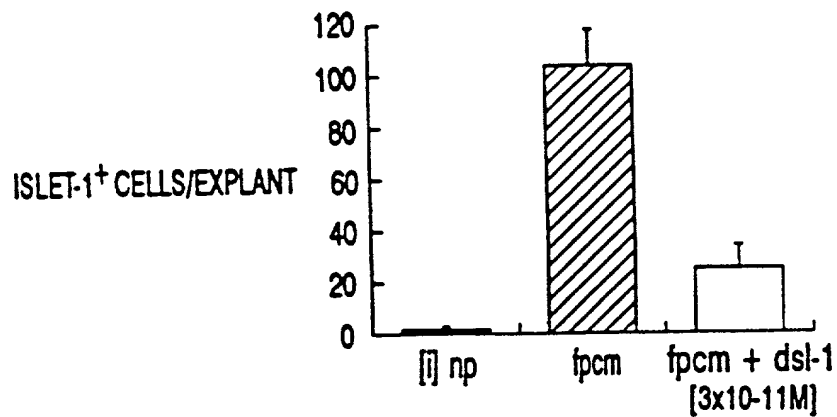
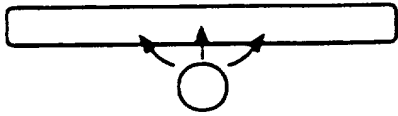


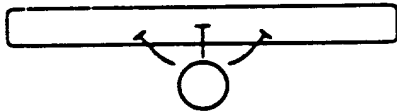
FIGURE 9A

A. ESTABLISHMENT OF *DORSALIN-1* EXPRESSION

- i) SIGNALS FROM THE NOTOCHORD SPECIFY THE VENTRAL FATE OF OVERLYING NEURAL PLATE CELLS



- ii) SIGNALS FROM THE NOTOCHORD ACT ON OVERLYING NEURAL PLATE CELLS TO PREVENT SUBSEQUENT *DSL-1* EXPRESSION



- iii) RESTRICTED DORSAL EXPRESSION OF *DSL-1* OCCURS AFTER NEURAL TUBE CLOSURE

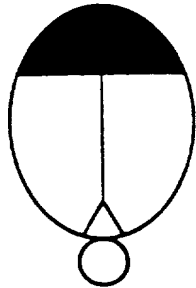
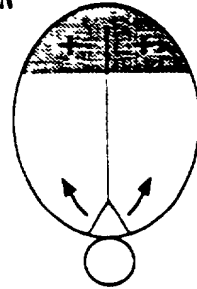


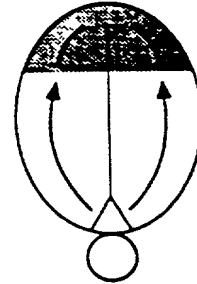
FIGURE 9B

B. POSSIBLE FUNCTIONS OF *DORSALIN-1*

- i) PROMOTION OF DORSAL CELL TYPE DIFFERENTIATION



- ii) LIMITING THE SPREAD OF VENTRAL SIGNALS



- iii) DIFFUSION OF *DSL-1* CONTROLS CELL PATTERN MORE VENTRALLY

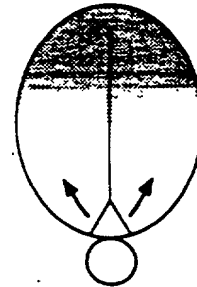


FIGURE 10

1		80	
B29	MHYFGVLAALS	VFNIIACLTRGKPLENWKKLPMVEESDAFFHDPGEVEHDTFDFKSFLENMKTDLRLSLNLSRVP	SQVK
B29m
81		160	
B29	TKEEPPQFMIDLYNRYTADKSSIPASNI	VRSESTEDVVSLSPEEHSFOKHILLFNISIPRYEEVTRAE	LRFISCHKEV
B29m
161		240	
B29	GSPSRLEGNMVIYDVL.DGDH	WENKSTKSLVSHSIQDCGWEMFEVSSAVKRWVKADKMKT	KNKLEV
B29m	DVLEDSETWDQATGKTFLVSQDIRDEGWETLEVSSAVKRWVRADSTTNKNKLEV	TVQSHRES...C
241		320	
B29	GKLDITVTHDTKNLPLLI	VFSNDRSNGTKETKVE.LREHIVHEQESVLNKLGN	DSSSEEEQREEKAI...ARPRQHSSR
B29m	DTLDISVPPGSKNL	PFVVFVFSNDRSNGTKETRIDLLKEMIGHEQETHLVKTAKNAYQGAGESQ	EEEEGLDGYTAVGPLLAR
321		400	
B29	SKRSIGA.NHCRR	RTSLHVNFEIGWDSWIIAPKDYEA	FECKGGCFPLTDNVPTKHAIVQTLVHLQNP
B29m	KRSTGASSHCQK	TSLRVNFEIGWDSWIIAPKEYDAYECKGGCFPLADDVPTKHAIVQTLVHLK	FPTKVGKACCVPT
401		433	
B29	KLDAISILYKODAGVPTLI	YNYEGMKVAECGCR	
B29m	KLSPISILYKODMGVPTL	KYHYEGMSVAECGCR	